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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/868,573	08/20/2001	Mitsuo Zen	1029/HIROSE	1494

7590

04/23/2002

Michael Tobias
Suite 304
1730 K Street NW
Washington, DC 20006

EXAMINER

EDMONDSON, LYNNE RENEE

ART UNIT	PAPER NUMBER
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1725

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DATE MAILED: 04/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/868,573

Applicant(s)

ZEN, MITSUO

Examiner

Lynne Edmondson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Dale (USPN 3883946).

Dale teaches a solder coated material comprising an electroplated layer of material having excellent solderability on a substrate comprising an iron-nickel alloy (col 5 lines 16-54). This layer may be Au, Ag, Ni or an alloy containing Sn and Ag with a thickness of 0.5 to 3.0 microns (col 5 line 46 – col 6 line 13). A solder coating is provided on the base layer and has a thickness of 2.0 – 50 microns (col 6 lines 13-50). The soldered portion of the material may be used to join a lid of a packaged part (col 2 lines 1-17 and col 9 lines 48-67) or module devices (col 10 lines 46-56). See also Dale claims 1, 1, 12, 23 and 33.

2. Claims 16-25 and 27-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Fister et al. (USPN 4978052).

Fister teaches a method of forming a solder coated material comprising the steps of electroplating a layer of material having excellent solderability on a substrate

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comprising Fe-Ni (16) (col 5 lines 1-18) as an oxidation resistant coating having a thickness of 1.2 to 5 microns (col 5 lines 45-64) and then passing the difficult to solder material through molten solder to form a dip solder plating layer (18) having a thickness of about 25 microns (1 mil) (col 9 lines 15-48). The solderable material may be a Sn-Ag alloy (col 4 lines 1-16). The method may be used to join a lid of a packaged part (col 1 lines 49-58) and may be performed in an inert atmosphere (col 7 lines 28-58). See also Fister claims 1-16.

3. Claims 25, 26 and 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Elliott (USPN 5232562).

Elliott teaches a method of forming a solder coated material comprising the steps of electroplating a layer of material having excellent solderability (Cu or Sn, col 1 lines 66-68) on a difficult to solder substrate (col 2 lines 6-18) and then passing the difficult to solder material through molten solder in a wave soldering process to form a dip solder plating layer (col 4 lines 5-18). The molten solder is maintained in an inert atmosphere and subjected to ultrasonic vibration (col 5 lines 12-38 and col 6 lines 23-36). See also Elliott claims 1-3 and 13-18.

4. Claims 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato (USPN 5232562).

Kato teaches a method of forming a solder coated material comprising the steps of electroplating a layer of material having excellent solderability (Cu or Sn, col 1 lines

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43-54) on a substrate comprising Fe-Ni (16) (col 5 lines 1-18) and then passing the substrate through molten solder to form a dip solder plating layer. The molten solder is subjected to ultrasonic vibration (col 2 line 28 – col 3 line 25). See also Katō claim 1.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Murata et al. (JPN 02-270990), Sato (JPN 09-293958), Obata (JPN 10-102283), Bristol et al. (USPN 6066197), Kushima et al. (USPN 4906823), Nowotarski (USPN 4821947) and Jin et al. (USPN 6250984 B1).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynne Edmondson whose telephone number is (703) 306-5699. The examiner can normally be reached on M-F from 7-4 with alternate Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (703) 308-3318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7118 for regular communications and (703) 305-7115 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Lynne Edmondson
Examiner
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LRE
April 17, 2002



M. ALEXANDRA ELVE
PRIMARY EXAMINER